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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/630,582

07/29/2003

Fausto Meli

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EXAMINER

RAHLL, JERRY T

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 05/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/630,582	<b>Applicant(s)</b> MELI ET AL.	
	<b>Examiner</b> Jerry T. Rahl	<b>Art Unit</b> 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 12-20, 29-36 and 38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 21-28, 37, 39 and 40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. **Claims 1-2, 5-6, 21-22, 25-28, 37 and 39-40 are rejected under 35 U.S.C. 103(a) as being anticipated by US Patent No 6,751,372 to Feuer et al. in view of US Patent No. 6,785,474 to Hirt et al.**

4. Feuer et al describes an apparatus (300) for adding wavelengths to a WDM signal having a first optical device (303), comprising a cyclic AWG, that combines P input ports into a single output signal, where each of the input ports accept non-overlapping interleaved sets of N/P wavelengths and a second optical device (204) that combines the signal output with the WDM signal (see Figure 3 and Columns 4-5).

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5. Feuer et al. does not specifically describe adding noise incoherently to minimize optical noise. However, adding noise incoherently to minimize noise is well-known in the art, as described by Hirt et al. (see Column 5, Lines 25-57). Therefore, at the time of invention, it would have been obvious to one of ordinary skill in the art to add noise incoherently to the system of Feuer. The motivation for doing so would have been to minimize the optical noise of the system output.

6. Further, Feuer et al. describes mirrors (205) that allow optical energy present at all input ports or can create a condition with no optical energy to at least one input port.

7. Further, Feuer et al. describes an optical structure (302) that combines N/P single wavelength signals into input for one of the input ports to the first optical device.

8. Regarding present Claim 28, the language “comprises less than N/P single wavelength signals” does not limit a device from including more than that which is claimed. Therefore, a device that comprises N/P single wavelength signals, such as Feuer et al., will inherently comprise less than N/P single wavelength signals. In order to limit the number of single wavelength signals to less than N/P, language other than “comprising” must be used.

9. **Claims 1, 3-11, 21, 23-27, 37 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication No. 2003/0223682 to Kinoshita et al. in view of US Patent Application No. 2004/0208428 to Kikuchi et al. and Hirt et al.**

10. Kinoshita et al. describes an apparatus for adding wavelengths to a WDM signal comprising a first optical device (44) that combines P input ports (28) to a single output signal (38) and a second optical device (40) that combines the output signal with the WDM signal (12)

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(see Figure 2 and Pages 2-3). Kinoshita et al. does not describe each of the input ports accepting non-overlapping interleaved sets of N/P wavelengths.

11. Kikuchi et al. describes an optical device that combines optical energy input to P input ports (100) into a single output signal (G), where each of the input ports accepts non-overlapping interleaved sets of N/P wavelengths, wherein P is greater than 1 and N is a total umber of wavelengths (see Figure 10 and Page 7).

12. At the time of the inventions, it would have been obvious to one of ordinary skill in the art to use the device of Kikuchi et al. in the apparatus of Kinoshita et al. The motivation for doing so would have been to reduce the bandwidth necessary for the added signal (see Kikuchi et al. at Page 2). Therefore, it would have been obvious to one of ordinary skill in the art to combine the device of Kikuchi et al. with the apparatus of Kinoshita et al. to obtain the invention as specified in the present claims.

13. Kinoshita et al. and Kikuchi et al. do not specifically describe adding noise incoherently to minimize optical noise. However, adding noise incoherently to minimize noise is well-known in the art, as described by Hirt et al. (see Column 5, Lines 25-57). Therefore, at the time of invention, it would have been obvious to one of ordinary skill in the art to add noise incoherently to the system of Kinoshita et al. and Kikuchi et al. The motivation for doing so would have been to minimize the optical noise of the system output.

14. While Kikuchi et al. does not specifically describe an interleaver as part of the device, it does describe interleaved signals input into the device. Therefore it is inherent that an optical interleaver exist to supply such interleaved signals. Such optical interleavers, including

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polarization beam combiners, are well-known in the art, as shown in US Patent No. 6,643,064 to Huang et al.

15. Presently presented Claims 5-7, 10, 25 describe various power levels for configuring the first optical device. However, it would have been obvious to one of ordinary skill in the art at the time of invention to use such configurations, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

16. Kikuchi et al. further describes a thin film filter (102).

#### ***Response to Arguments***

17. Applicant's arguments filed 02 February 2006 have been fully considered but they are not persuasive.

18. Applicant's argument that Feuer and Kinoshita et al. and Kikuchi et al. do not suggest adding optical noise incoherently to reduce optical noise have been considered but are moot in view of the new ground(s) of rejection (see above).

19. Regarding, Applicant's argument that Feuer does not describe means for combining optical energy that is then input to the P input ports, the examiner notes that no limitation of the claims requires the combination of optical energy before input to the P input ports.

#### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry T. Rahll whose telephone number is (571) 272-2356. The examiner can normally be reached on M-Th (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jerry T. Rahll  
MICHELLE CONNELLY-CUSHMAN  
PRIMARY EXAMINER  
5/1/06